

REMARKS

Reconsideration of this application is requested in view of the amendments to the claims and the remarks presented herein. Entry of the amendment is requested under the provisions of Rule 116 as it puts the application in condition for allowance or in better condition for appeal.

The claims in the application are claims 16 to 25, all other claims having been cancelled.

Applicants are submitting herewith a new declaration signed by the inventors to replace the declaration objected to by the Examiner. It is noted that the last response also overcame the Examiner's objection to the specification.

All of the claims were rejected under 35 USC 112 as being indefinite for the reasons set forth in paragraphs 1 to 11 of the office action.

Applicants are rewriting the claims in order to more clearly point out the invention and to obviate the Examiner's rejections and it is believed that the present claims are free of the Examiner's formal objections thereto. They are now directed to allowing consolidation of the stratified architecture of the epidermis and to improve the mechanical properties of the skin without inducing any proliferation of the cells. A recent biochemistry book entitled "The Cell" has a portion relating to the important role

played by *Keratinocytes* in the construction of the epidermis and as explained therein, the epidermic layer of the skin is made of pluri-stratified epitheliums mainly composed of *Keratinocytes*. The major function of which is the synthesis of keratine. The epidermis is an epithelium made of multiple layers in the differentiated cells migrate from their original location in a vertical direction to the plane of the cellular leaves.

The epidermic layer of the skin as well as the epithelium which lines the digestive tract by two tissues which are most exposed to the aggression from the external environment. In both cases, the mature differentiated cells are quickly lost from the most exposed sites and then are replaced by the proliferation of less differentiated cells which occupy more protected sites. Since the epidermis is a pluri-layered epithelium, the cells change of appearance from one layer to another. Those which are located in the most internal layer are called “basal cells” and they are those which essentially are subjected to mytosis.

Among the basal cells, there are several layers of more or less voluminous cells, “the prickly cells”. The numerous desmosomes of which each being an anchoring point for thick tufts of filaments of keratine. They may be visualized in photonic microscopy as small spines at the cellular surface. Above, the spiny cells, one can find a thin layer of granular cells which eliminates the internal layer which layer is metabolically active and the external layer is constituted of dried cells where the cellular organites have

disappeared. These external cells are reduced to flattened structures or scales filled with very dense deposits of keratine. The plasmic membranes of the cells and the external granular cells are reinforced on their cytoplasmic surface by a thin and strong layer containing an intracellular protein called “involucrine” which cells are so thin and compressed, they cannot be disassociated by usual preparations suitable for photonic microscopy.

The keratine is accumulated in the scales and give to the skin an appearance of death and whiteness. Instead, the extracts of *Padina pavonica* are able to ensure the consolidation of the external portion of the skin by promoting the differentiation of the keratinocytes stemming from the basal layer to the granulous upper part whereby it produces a fresh and clear taint to the skin. This is the reason why the extracts of *Padina pavonica* are endowed with useful properties which make them very useful in cosmetics to refresh and renew the portions of the body subject to aging.

Claim 11 to 13 were rejected under 35 USC 102 as being anticipated by the “Synthesis from the Sea” and the remaining claims were rejected under 35 USC 103 as being obvious thereover. The Examiner has stated that that the reference discloses use of cosmetic formulations containing 2 to 5% of an extract of *Padina pavonica* to protect the skin against free radicals in other irritation and implies the topical application of compositions containing the extract. The Examiner deems that the reference teaches

applying the same composition in the same effective amount to skin and therefore, it has the same results as the reference.

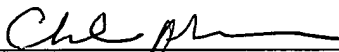
Applicants respectfully traverse this ground of rejection since it is deemed that the previous extracts of *Padina* disclosed in the Gutierrez patent and the Synthesis of the Sea publication do not possess the same properties and cannot teach Applicants' invention. U.S. Patent No. 5,961,981 defines the substances extracted from the genus *Padina* as modifying the synthesis of glycosylated elements of the extracellular matrix of animal and human tissues. They stimulate the synthesis of glycosaminoglycans and of proteoglycans of the extracellular matrix. In other words, this extract or product stimulates the secretion of a factor by acting on the chondrocytes, synoviocytes, osteoblasts and on other mesenchymal cells and contributes to the repair of bones or mesenchymal tissues if damaged.

The Synthesis from the Sea publication originates from the company Alban Muller International which is one of the leading French companies providing many raw materials for cosmetics and as indicated in this reference, the purified extract is offered to stimulate the synthesis of glycosaminoglycans (GAGG) which constitutes a bank of water in the dermis and maintains the skin's suppleness, firmness and elasticity. This disclosure has some similarities with U.S. Patent No. 5,911, 981. In contrast thereto, the present application is based on different active ingredients which leads to a different use

of the extract of *Padina pavonica*. There is no question of synthesis of glycosaminoglycans. Applicants' extract leads to the differentiation of keratinocytes permitting the substitution of old keratinocytes or even dead ones by young and deeper keratinocytes thereby rejuvenating the skin and this is in no way taught by the prior art cited by the Examiner. Therefore, withdrawal of this ground of rejection is requested.

In view of the proposed amendments to the claims and the above remarks, it is believed that the claims clearly point out Applicants' patentable contribution and favorable reconsideration of the application is requested.

Respectfully submitted,
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Enclosures